

## A STUDY ON ETHNO-MEDICINAL USE OF SOME COMMONLY AVAILABLE PLANTS FOR WOUND HEALING AND RELATED ACTIVITIES IN THREE SOUTHERN DISTRICTS OF WEST BENGAL, INDIA

Shibabrata Pattanayak<sup>1</sup>, Mihir Kumar Dutta<sup>2</sup>, Pratip Kumar Debnath<sup>3</sup>,  
Susanta Kumar Bandyopadhyay<sup>4</sup>, Bappaditya Saha<sup>5</sup> and Debabrata Maity<sup>\*6</sup>

**ABSTRACT:** The information of ethno-medicinal uses as haemostatic, antiseptic wound healer and anti-dermatitic properties containing plants in human and animals were collected from three districts of southern West Bengal, India, viz. Paschim Medinipur, Purba Medinipur, and Murshidabad which are situated in different agro-climatic conditions. Presently twenty one such plants were recognized and most of them are new claim regarding the said treatments. The plants were properly identified with the help of relevant literatures, photographed and available relevant previous information about the medicinal properties or uses were also searched out from the earlier literatures and were enlisted for comparison.

**Key words:** Ethno-medicinal plants, Wound healer, New report, West Bengal.

### INTRODUCTION

Plants are being used since antiquity push back to the days of oldest civilization of Harappa and Mohen-jo-Daro. In this pre-vedic period there was no process of documentation.

Knowledge was experience based and percolated to generation after generation on shruti and smriti. The documentation started through the oldest language, the Sanskrit (Sen and Sen 2005).

---

<sup>1</sup>. Assistant Director, ARD (Microbiology), Institute of Animal Health & Veterinary Biologicals(R&T), Kolkata, West Bengal, India.

<sup>2</sup>. Ex. Professor & Head, Department of Botany, Krishnath College, Berhampur, West Bengal, India.

<sup>3</sup>. Coordinator, National Research Institute of Ayurveda for Drug Development, Kolkata, West Bengal, India.

<sup>4</sup>. Director of Medical Education and research, Govt. of West Bengal, West Bengal, India.

<sup>5&6</sup>. Taxonomy and Biosystematics Laboratory, Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata - 700 019, West Bengal, India.

<sup>\*</sup>Corresponding author.

People, especially the ethnic communities of India, are traditionally using the plant resources for their food, shelter and for health care as medicinal uses. In this regard, the biological relationship is framed out and traditional uses of plants as medicine are in practice. Such knowledge, mostly oral, is passed on to generations and thus appears to be eroding owing to the gradual changes in the life style of these communities. Therefore, it is necessary to record this information as early as possible for future investigations and scientific utilization of these plants.

Over 9500 wild plant species are used by the tribal communities in India for meeting their various requirements as has been recorded so far out of which about 7500 wild plant species are used by them for medicinal purposes, about 950 are found to be new claims and worthy of scientific investigations. Many of these species are also used in various traditional medicine systems like Ayurveda, Unani, Siddha etc. (Sinha and Sinha 2001, Mishra *et al.* 2004).

Even after identification of many plants used in Indian system of medicine, a large number of plants or uses of plant are yet to be analyzed, particularly which are confined among the people of rural areas, forests and hills. Those practices are still alive and practiced in its pure form. The use of plants for a disease or the use of a plant for different diseases differs from place to place according to availability of plants in the local area. There are special local physicians taking care of health of rural people called in different names in different places. In tribal area they are known as Kherua, Janguru etc. In other parts of rural Bengal, they are called as Gunin, Mantree etc. Use of locally available herbs as an agent to cure diseases depends on some other factors also, among

which daily contact and interaction with plant is important. Moreover, people of rural areas have compulsion due to economic reasons and problems in accessibility in reaching to the conventional health care system. For wound healing and related activities, apart from well studied plants like *Curcuma longa* L., *Azadirachta indica* A.Juss. or *Tagetes patula* L., many other plants are still in use in West Bengal. Attempts are being made to document such folk practices commonly used for haemostatic, antiseptic, wound care and anti-dermatitis effect.

## MATERIALS AND METHODS

The study was performed in three districts of different agro-climatic conditions of the southern part of the state West Bengal. First one was Paschim Medinipur district, a good portion of which is covered by forest. The soil is mostly sandy lateritic type. The inhabitants of that area are mainly of tribal origin (mainly Santhal). The representative blocks are Gopiballavpur I and Narayangarh. The second one was Purba Medinipur, where the soil is clay-rich, and commonly water lodge during monsoon. The representative blocks are Moyna and Mahisadal. The third district was Murshidabad, which is having mainly new alluvial loamy soil. The representative blocks are Raninagar I and Berhampur. The blocks were selected arbitrarily basing on remoteness, representation of agro-climatic conditions of the districts in question and uses of different plants as medicine by the people. Name of the villages from where the samples were collected are also stated.

The investigation was performed by face to face dialogue with 'Janguru', 'Gunin' and the people of rural West Bengal. Information was

collected from both tribal people and also from non-tribal people of different caste and religion. The knowledge and practice of those people were noted and no modification has been performed during presentation of the information. The plants they use are all locally grown. Samples were collected, photographed and branded at local name. Subsequently these were identified by taxonomist (D.M) and the specimens were preserved in herbarium. The species are presented in alphabetical order under observation.

## OBSERVATION

The result of the study is described briefly indicating the species of the plants, vernacular names, name of place of collection of the specimen along with a brief statement on their presently known medicinal uses. Previous studies related with our observations are also provided along with proper references. Among the twenty one plants presented in this study, no mention is found about medicinal effect of two plants, *Mikania scandens* Willd. and *Pandanus foetidus*, in the list of 2159 medicinal plants published by Department of AYUSH, Govt. of India (Sharma 1998).

### 1. *Achyranthes aspera* L.

(Amaranthaceae)

**Local names:** Bengali-Apang, Hindi-Laljiri/chirchiri, English-Prickly chaff flower.

**Collected from:** Chaltia, Murshidabad.

**Uses:** A paste of the root of this plant is made and is mixed with a little amount of ghee (milk fat) and heated a little. That slightly warmed mixture is applied on the sprained and strained muscle and joints and kept by a loose bandage. The ointment is to be changed every day and continued for 2-7 days depending upon the

severity of damage for the remedy of the disease.

To cure piles and haemorrhoids 2-3 gms of root is fed with 'Pan' (leaf of Piper betle) daily after lunch for consecutive one month. In case of re-occurrence of the problems, same treatment is again repeated for fifteen days. To cure enteritis of cattle the root-paste is also fed to cure bloody enteritis or the roots of 4-5 grams are fed two times daily for the same purpose.

Root fed in piles and leucorrhoea and paste of whole plant applied on carbuncle, abscess etc. (Nawaz *et al.* 2009). Plant is used in leprosy (Gupta *et al.* 2010). Paste of leaves is applied on wound of cattle, especially camel (Qureshi *et al.* 2010). Decoction of the entire plant has diuretic, purgative and pungent properties. It is useful as medicine of piles, boils, skin eruptions, colic. It is also reported to use to cure from snake bite. Seeds are used as emetic in hydrophobia (Chopra and Nayer 1956). Flowering spikes or seeds are used externally in poisonous insect bites. Decoction of the entire plant has diuretic properties and occasionally it is proved useful in renal dropsy (Annon 1948).

Lodhas prescribe this plant for the treatment of mad dog biting, against burning sensation in urination to stop bleeding after abortion and to cure piles (Pal and Jain 1998).

### 2. *Anisomeles indica* (L.) Kuntze

(Labiatae/Lamiaceae)

**Local name:** Bengali-Danachosa/Gobura.

**Collected from :** Goas, Murshidabad.

**Uses:** Fresh leaf-extract of this plant is applied on painful gum and tooth and also in ear orifice to get relief from pain and to cure the sores.

This plant is used on skin for burning

sensation (Gupta *et al.* 2010), applied on itches (Qureshi *et al.* 2010). This plant is used traditionally as an anti-inflammatory and in skin problems (Baranwal *et al.* 2012).

**3. *Aristolochia indica* L.** (Aristolochiaceae)

**Local name:** Bengali-Iswarmul.

**Collected from :** Romipur, Murshidabad.

**Uses:** The root paste is applied locally once in a day in eczema, old ulcers and wounds.

The root and branches of this plant are used to cure worm infestation and old ulcerative wounds (Jain 1991 & 1995). Root is used to cure skin diseases (Gupta *et al.* 2010, Mollik *et al.* 2010).

Leaves are used in the treatment of ulcers, for expelling roundworms, eczema on children's leg (Chopra and Nayer 1956).

Lodhas prescribe root paste as antidote to snake venom, in the treatment of allergic eruption, for causing abortion. Santhals give root paste in bowel complains. Oraons give dried seed powder with honey in the treatment of dry cough (Pal and Jain 1998).

It is reported that roots are used for the treatment of snake bites, fevers and flatulence and dyspepsia, leucoderma and the leaves are used for cobra poisoning (Annon 1948).

**4. *Artemisia nilagirica* (C. B. Clarke) Pamp.** (Compositae/Asteraceae)

**Local name:** Bengali- Nakdana, Damanaka.

**Collected from :** Goas, Murshidabad.

**Uses:** 2-3 drops juice of fresh leaf of this plant is introduced in each nostril to check nasal bleeding of children. The leaf juice is also used to check nasal bleeding of some other domestic animal species also (*viz.* cattle, buffalo, goat).

The plant possesses antiseptic property (Chopra *et al.* 1982).

**5. *Barleria lupulina* Lindl.** (Acanthaceae)

**Local name:** Bengali-Vishalyakarani.

**Collected from :** Saratpalli, Belda, Paschim Medinipur.

**Uses:** The juice of leaves of this plant is used to stop instant bleeding. It is also used to cure all types of wound and ulcers, both new and old.

The leaves are used to treat snake bites, dog bites, swelling due to fall or assault, boils, bleeding wounds and rheumatism (<http://www.globin.com>).

**6. *Bambusa bambos* (L.) Voss** (Gramineae/Poaceae)

**Local name:** Bengali-Bans.

**Collected from :** Asnan, Purba Medinipur.

**Uses:** A little amount of juice comes out from the soft branches during its burning. The juice is collected daily and 2-3 drops of it is used in the ear 3-4 times daily to get relief from pain and to cure the infection of the ear.

Leaves are fed to the cattle for fracture repair (Jaiswal *et al.* 2004). The leaves of this plant are given to horses for coughs and colds (Ambasta 1986).

**7. *Blumea lacera* (Burm. f.) DC.** (Compositae/Asteraceae).

**Local name:** Bengali-Kuksima/Kukursunga, Hindi-Kukkurbanda.

**Collected from :** Ramchandrapur, Purba Medinipur.

**Uses:** Plant is used to cure wounds of animals. The juice of the whole plant (including the root) is applied regularly on large-sized wound after slight heating 2-3 times daily to cure wounds and to protect the animal from development of problems like tetanus and gangrene.

Leaf used in cuts and wounds (Gupta *et al.*

2010). Plant used as febrifuge, diuretic and anti-scorbutic (Ambasta 1986).

**8. *Bryophyllum pinnatum* (Lam.) Oken** (Crassulaceae).

**Local name:** Bengali-Pathar kuchi.

**Collected from :** Sitanagar, Murshidabad.

**Uses:** The juice of 2-3 matured leaves is introduced in anal orifices through dropper to check bleeding of anal fissure and hemorrhoids.

The leaf is used to check bleeding from the fresh wounds (Ambasta 1986). In Brazil, the plant is considered as sedative, wound healer, diuretic, anti-inflammatory and cough suppressant (<http://www.rain-tree.com>).

**9. *Capparis zeylanica* L.** (Capparidaceae).

**Local name:** Bengali-Kalokera/Bagnai, Hindi-Jhiri/Kalis.)

**Collected from :** Sitanagar, Murshidabad.

**Uses:** Root paste is applied on old, incurable wounds and ulcers as well as in all types of eczematous skin lesions, both in human and animals. Fresh root paste is applied daily and kept at the place with a loose bandage until cure. The quantity is calculated according to the affected area and used till remedy.

It is reported to possess anti-oxidant, anti-pyretic, analgesic, anti-inflammatory, anti-microbial and immunostimulant effect (Lather *et al.* 2010). Root bark is sedative and stomachic, used in cholera (Ambasta 1986).

Lodhas prescribe powdered root bark with paste of fruits of long peppers (*Piper longum*) in the treatment of small pox. They apply paste of root bark to cure swelling of testicles. Oraons give decoction of stem bark for treatment of cholera. Mundas apply leaf paste with paste of fruit of black peppers (*Piper nigrum*) on swelling of breast. They use the crushed leaves

against small pox and rub powdered roots as curative of body ache (Pal and Jain 1998).

**10. *Senna sophora* (L.) Roxb.** (Caesalpinaceae).

**Local name:** Bengali-Kalkasunda, Hindi-Kasunda .

**Collected from :** Romipur, Murshidabad.

**Uses :** The leaf paste is applied on the skin to cure various chronic skin infections. Extract of 5-6 leaves is applied 2-3 times daily for that purpose.

Juice of leaves is a specific agent for ringworm. Decoction of whole plant is said to be beneficial in bronchitis (Annon 1950, Chopra and Nayer 1956).

Lodhas prescribe paste of root bark with the seed powder of Jamun (*Syzygium cumini*) and honey for treatment of diabetes and apply root paste as curative of skin diseases like ring worm (Pal and Jain 1998).

**11. *Coccinia grandis* (L.) Voigt** (Cucurbitaceae).

**Local name:** Bengali -Telacucha, Hindi-Bhimba, English -Ivy Gourd.

**Collected from :** Chitinasole, Paschim Medinipur.

**Uses:** The juice of fresh leaves of this plant is applied on the affected area and 4-5 ml of extract is also taken at empty stomach to cure skin diseases like curbangle, scabies, ulcer, abscess, etc. To treat septicemic wounds, the juice of fresh leaves is mixed with ash of cow dung and applied over the wound regularly. Extract of leaf is also applied on skin to cure allergic skin reactions.

Root of the plant is used to cure leucorrhoea (Nawaz *et al.* 2009). Leaves are being used in painful conditions and injuries (<http://>

[www.ayusveda.com/herbs/coccinia-indica.htm](http://www.ayusveda.com/herbs/coccinia-indica.htm)).

**12. *Croton bonplandianum* Baill.**  
(Euphorbiaceae).

**Local name:** Bengali- Bana tulasi.

**Collected from :** Madhyahinghli, Mahisadal.

**Uses:** The oozing out fresh latex of the plant is used to check bleeding from all types of fresh wound.

It is a healing plant (Parrotta 2001). Infusion of leaves is used in eye to remove redness (Gaur *et al.* 2010).

Lodhas prescribe root paste with decoction of stem bark of arjuna (*Terminalia arjuna*) for the treatment of cholera. They apply latex on new cuts for stopping bleeding. Santhals give a preparation of plant paste and rice bran to children for treatment of ricket. Other ethnic communities apply fresh leaf juice against headache. They give latex in dilute form with cow milk for the treatment of madness (Pal and Jain 1998).

**13. *Cynodon dactylon* (L.) Pers.**  
(Gramineae/Poaceae)

**Local name :** Bengali-Durba ghas, Hindi-Dhub/Hariali.

**Collected from :** Asnan, Purba Medinipur.

**Uses :** A paste is prepared from clean grass and it is applied on the wound and kept at the area with the help of a loose bandage. The grass-paste and the bandage are changed 2 to 3 times daily until the wound heals.

A drink made by filtering the whole plant paste is fed at empty stomach at morning to cure all types of haematuria.

The whole plant is pressed and applied on wound for curing (Mollik *et al.* 2010).

Decoction of the roots is used as diuretic, in the treatment of dropsy and secondary syphilis. Infusion of roots is used for stopping bleeding from piles. Juice of plant is used as astringent; useful when applied to fresh cuts and wounds and also used as diuretic, in dropsy and anasarca, in hysteria, epilepsy, insanity. Rhizomes are used in genito- urinary disorders (Annon 1950, Chopra and Nayer 1956).

**14. *Eclipta prostrata* (L.) L.** (Compositae/Asteraceae)

**Local name:** Bengali-Keshutti/Kesari, Hindi- Safed Bhangra/Mochkand.

**Collected from :** Haridasmati, Murshidabad.

**Uses :** The juice of fresh leaves of this plant is applied externally to cure the wound and ulcers.

In animals, the leaf-paste of this plant is used in the old wounds as well as in ulcerative wounds of toe in foot and mouth disease and also applied on hump sore ulcers of neck region. The quantity of leaf paste is made according to the requirement.

Root is emetic and purgative, also applied to the wounds of cattle (Ambasta 1986). Leaf juice is squeezed locally for quick healing (Sudarsanam *et al.* 1995). It is used as tonic, emetic and useful in obstruent in hepatic and spleen enlargement. In combination with aromatics it is administered for the treatment of jaundice of cattle. Leaves are used in scorpion sting. Leaf juice along with honey is used as remedy for catarrh in infants. Root is used as emetic, purgative and applied externally as antiseptic to ulcers and wounds in cattle (Chopra and Nayer 1956).

Lodhas use this plant in the treatment of fever, eye trouble and even to promote hair



growth. Santhals use it to cure fever. Mundas prescribe the decoction of leaves as laxative. They use leaf paste along with stem bark of *Strychnos nux-vomica* on boils for suppression (Pal and Jain 1998).

**15. *Eupatorium triplinerve* Vahl**  
(Compositae/Asteraceae)

**Local name:** Bengali-Ayapan, Hindi-Ayapan.

**Collected from :** Narikeldah, Purba Medinipur.

**Uses :** The paste is made with 10-12 pieces of matured leaves of this plant and mixed along with 5-6 grams of sugar and this mixture is applied on the wound to control bleeding.

To cure diseases like bloody enteritis, amoebiasis, and leucorrhoea, juice of 3-4 fresh leaves of the plant is fed to the patients daily after mixing some sugar and water with it.

Decoction of leaves is haemostatic (Ambasta 1986). Decoction of leaves applied externally on face to cure Acni (pimples of face) (Dey *et al.* 2010). The plant is stimulant and is used as tonic. Decoction and juice of leaves both are used in foul ulcers. Hot infusion is emetic and diaphoretic. Decoction of the leaves is haemostatic (Annon 1952). Decoction of plant is used as stimulant, tonic and diaphoretic. Decoction of leaves has haemostatic properties. Aqueous extract of dried leaves and shoots have cardiac stimulating properties (Chopra and Nayer 1956).

**16. *Glinus oppositifolius* (L.) Aug. DC.**  
(Molluginaceae)

**Local name:** Bengali-Gimesag/Duserasag, Hindi-Gandibudi.

**Collected from :** Projabharh, Purba Medinipur .

**Uses :** The extract of fresh leaves of this plant and also as a form of curry is fed to keep away or to get relief from various skin diseases. Extract of 5-6 gm of leaves and soft branches are fed each time.

The leaf extract is applied on wounds to check bleeding and to cure the wound quickly. The applied quantity is according to the requirement.

It is antiseptic and is used to cure boils, wounds and pain (Jain 1995). Poultice of leaves is applied on wound and inflammation (Qureshi *et al.* 2010). Dried plant is diuretic, purgative and used to cure boils, bilious attack and for wounds and pains in the limbs. Juice is given internally for weak children (Chopra and Nayer 1956).

**17. *Heliotropium indicum* L.**  
(Boraginaceae)

**Local name :** Bengali-Hati-sunr, Hindi-Hattasura, English-Heliotrope.

**Collected from :** Chaltia, Murshidabad.

**Uses :** The juice of 2-3 matured leaves is applied directly on inflamed eye for 3-4 times daily for 4-5 days to control all types of eye infection and get relief from inflammation.

Plant is used in skin diseases (Mollick *et al.* 2010). It is reported to use whole plant as local application for ulcers, sores, wounds, gum boils, skin affections, stings of insects and reptiles (Ambasta 1986, Annon 1959). The plant is reported to have diuretic properties. Decoction of the leaves is used in fevers and urticaria and the roots are used in cough and fever. Flowers are considered emmenagogue in doses and abortifacient in large doses. Seeds are masticated and swallowed in stomachic (Annon 1959).

Lodhas apply root paste to cure ring worm.

They give root decoction with honey to women against anemia during pregnancy. They apply leaf paste with lime water in the treatment of swelling in arm peats. Mundas prescribe leaf decoction to stop frequent abortions, particularly who gets frequent abortion before maturation of baby. Tribal and other ethnic communities apply leaf juice with common salt as drops to cure conjunctivitis. Santhals give fresh flower paste with country liquor to women for aborting purpose up to 3 months pregnancy. Other ethnic communities use leaf juice on poisonous insect stings (Pal and Jain 1998).

**18. *Litsea glutinosa* (Lour.) C. B. Rob.** (Lauraceae)

**Local name:** Bengali-Piplas/Pipulti/Kukurchita, Hindi-Maida lakri, Sanskrit-Megasakh.

**Collected from :** Chaturibhara, Paschim Medinipur.

**Uses :** The leaf of this plant is used as a protective as well as curative agent for all stomach and liver problems, infective or non-infective, including gastric ulcer. 4 to 5 matured leaves are pressed, the thick agar-like watery extract is taken out, mixed with little amount of sugar with it and taken at empty stomach at morning daily and continued for 7-21 days according to the severity of the problem. The treatment is repeated after 15 days, if required.

To control and cure prickly heat and summer itches and acni formation on the face, this drink should be taken daily along with external application of mucilage made from the leaves of this plant on the affected body parts 1-2 hrs before bath for 5-6 days.

Mucilaginous juice of stem bark is used in diarrhoea and dysentery and as local antidote

to bites of venomous animals. Powdery and pasted materials of stem bark used as an emollient application for sprains, bruises and rheumatic and gouty joints; also used as a styptic dressing for wounds (Chopra and Nayer 1956, Annon. 1962, Ambasta 1986). Leaves and flowers employed in poultices for bruises and wounds (Ambasta 1986). Latex is used for the remedy of wounds (Gupta *et al.* 2010).

**19. *Mikania scandens* (L.) Willd.** (Asteraceae)

**Local name:** Bengali-Banchhalata/Taralata, English-Climbing hempweed.

**Collected from :** Ramchandrapur, Purba Medinipur.

**Uses :** Juice of fresh leaves is used as haemostatic agent on fresh wounds. It is also used for its analgesic effect. Paste made from the fresh leaves of this plant is used after slight heating on bruising muscles and kept as such with the help of a loose bandage to get relief from pain and to cure damaged tissue. The quantity of matured leaves is selected according to the size and severity of the wound.

Leaf juice is used in wound and bruises (Nawaz *et al.* 2009). The leaves applied to itches and in the form of poultice to wound (Ambasta 1986). Whole plant is used in Malaya for itches and in Java and South Africa for poulticing wounds (Annon 1962).

Lodhas and Oraons apply crushed fresh leaves on fresh cuts to stop bleeding. They apply leaf juice to cure headache. Other ethnic communities used fresh leaf juice as drop in nostrils in epilepsy. In south-east Asia the leaves are known to be used on itch and wounds (Pal and Jain 1998).

Plant used by Thongas as a remedy for snake





*Achyranthes aspera*



*Anosomalis indica*



*Aristolochia Indica*



*Artemisia nilagirica*



*Barleria lupulina*



*Bambusa bambos*



*Bhomea lacera*



*Bryophyllum pinnatum*



*Capparis zeylanica*



*Senna sophora*



*Coccinia grandis*



*Croton bonplandianum*



*Cynodon dactylon*



*Eclipta prostrata*



*Eupatorium triplinerve*



*Glinus oppositifolius*



*Heliotropium indicum*



*Litsea glutinosa*



*Mikania scandens*



*Pandanus foetidus*



*Solanum virginianum*



*Tagetes patula*



*Curcuma longa*



*Azadirachta indica*



bite and scorpion sting (Chopra and Nayer 1956).

**20. *Pandanus foetidus* Roxb.**  
(Pandanaaceae)

**Local name:** Bengali-Kanta-keya, Hindi-Keor-kanta.

**Collected from :** Hatibari, Paschim Medinipur.

**Uses :** The poultice of fresh leaf paste of this plant is used over damaged tissue of both human and animals developed due to any blunt injury. The poultice is made from 2-3 young leaves and is applied on the affected part and kept there by a loose bandage. The paste is changed every day and the treatment is continued for 4-5 days.

It is reported that the plant is used in leprosy, smallpox, syphilis, scabies, heart and brain diseases (Uddin *et al.* 2011). Leaf juice is used on face for glossy skin (Akhter *et al.* 2008).

Lodhas prescribe ash prepared by burning of roots with coconut oil for the treatment of leucoderma. They apply juice of leaf sheath with lime after warming to cure mumps. They use seed oil to improve memory. Santhals prescribe leaf juice with common salt against nausea. Other ethnic communities give root paste with honey against miscarriage (Pal and Jain 1998).

**21. *Solanum virginianum* L.** (Solanaceae).

**Local name:** Bengali-Begunkuthi, Kantakari. Hindi-Kateli, Ringni. English-Yellow Barried night shade .

**Collected from :** Gopiballavpur, Paschim Medinipur.

**Uses :** The paste of roots of this plant mixed with ghee or mustard oil is applied on painful teeth and gum to get relief from pain and also to bring quick recovery of the ulcerated wound.

This mixture or ointment is made from 5-6 gm of fresh roots and 4-5 gm of ghee which is sufficient for a treatment of 5 days.

The fruit of this plant is added with a few drops of mustard oil and heated after placing it in a small iron pot. The smoke is taken through mouth to the inflamed teeth to get relief from pain and discomfort.

The fruit and root of this plant are with germicidal action (Jain 1991 1995). Plant is used in coughs (Nawaz *et al.* 2009). Root is used as expectorant, useful in asthma, cough and pain of chest. Stems, flowers and fruits all are used as bitter carminative, give relief in burning sensations. The juice of fresh berries is used in sore throats. Seeds are useful in asthma and cough. Whole plant is used as diuretic and used in dropsy (Annon 1972).

Lodhas give root paste mixed with honey to the patient during fever for stopping vomiting. They prescribe root decoction with paste of fruits of long peppers as antidote to pox. They apply root paste with the paste of *Curcuma longa* for treatment of syphylytic eruption. Santhals use leaf decoction with long pepper and paste of ginger to the patients suffering from dengue fever and advice to smoke dried seed powder for treatment of asthma. Mundas use root pate for treatment of scabies. Oraons use fruit paste and leaf juice of *Shorea robusta* with common salt to children against whooping cough. Seed paste used along with fresh juice of *Allium cepa* as cure for tooth ache. Fresh flower paste is used as balm for watery eruptions on skin. They taken ten dried fruit to cure cold and cough. Seed as expectorant is used in asthma and cataract (Pal and Jain 1998).

## DISSCUSION

It appears from the study that people of rural

Bengal are still in practice to use various parts of locally available plants to cure their ailments, sometimes at some novel way. So, some typical uses of few commonly available plants are reported. In some cases, this acquired knowledge is inherited for generations among the common people. They collect the locally available plants and use the particular parts of the plants themselves. But in some other cases, it was found that the local medicine man or women (Gunin, Janguru etc.) have such knowledge by the previously collected and preserved plant parts. In some cases, almost same types of use of some plants are common among the people of a large area of rural Bengal. Among them, *Cynodon dactylon*, *Croton bonplandianum*, *Senna sophora*, *Coccinia grandis*, *Eupatorium triplinerve* and *Mikania scandens* are important. Use of some other plants, like *Anesomeles indica*, *Artemisia nilagirica*, *Bambusa bambos*, *Blumea lacera*, *Heliotropium indicum*, *Litsea glutinosa*, *Pandanus foetidus*, etc. are limited in a very small area.

Similar type of studies were done by Raina *et al.* (2008) and had listed the names of 13 medicinal plants having wound healing activity, among these none is included in this present list. Gupta *et al.* (2010) listed 175 plants used to cure various skin diseases, and only 6 are common with the previous and the present observation. Jaiswal *et al.* (2004) listed 42 plants used for tissue healing of animals, only one *i.e.* *Bambusa bambos* is of same finding. In most of the cases, it was found that the uses of these common plants described in these previous studies are different from those of our observation.

This study reveals that the uses of some plants to cure almost same type of ailments of human being as well as animals. In rural

villages, most of the villagers have domestic animals for generations from a very ancient time. This perhaps lead them to think about the similarity of symptoms of bleeding, wound infections, skin infections, etc. of diseased animals with themselves and searching of some types of household or locally available medicines for the treatment of animals also. Plants like *Artemisia nilagirica*, *Blumea lacera*, *Capparis zeylanica*, *Eclipta prostrata*, *Pandanus foetidus*, etc. are the best examples of their ethnic knowledge.

In the modern age, the use of herbal drugs is increasing in a significant rate. People residing at the rural areas are accustomed with the uses of readily available herbal drugs mainly at its raw, pure, fresh as well as crude form. These drugs are developed through the gathered experience of people for generations. Studies are going on at different parts of the world on testing of the efficacy of such plant part as a whole or of its active ingredients. Such study should be performed on the typical uses of the plants in rural Bengal in controlling hemorrhage, cure of different types of wound and ulcer and cure of various skin infections. Thus, this study can be documented for the purpose of bio-prospecting of indigenous knowledge of man.

## ACKNOWLEDGEMENTS

Authors are thankful to the villagers of the study area for providing valuable information regarding the different uses of plant. Authors are also grateful to Late Mohitosh Ghosh of Romipur, Murshidabad, West Bengal for his active help in the field work and Prof. G. G. Maiti, Department of Botany, University of Kalyani, Nadia, West Bengal, India for his valuable suggestions and help.

## REFERENCES

- Ambasta SP(ed.).(1986).** The Useful Plants of India. NISCAIR. CSIR. New Delhi.
- Annon.(1948) .** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.1. CSIR. New Delhi. p.24 &125.
- Annon.(1950).** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.2. CSIR. New Delhi. p.98 & 420-421.
- Annon.(1952).** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.3. CSIR. New Delhi. p.128 & 223.
- Annon.(1959).** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.5. CSIR. New Delhi. p.29.
- Annon.(1962).** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.6. CSIR. New Delhi. p.153-154 & 376.
- Annon.(1972).** The Wealth of India, a dictionary of Indian raw materials an industrial products. Vol.9. CSIR, New Delhi. p.393-394.
- Akhter S, Halim MA, Sohel MSI, Sarkar SK, Chowdhury MSH and Sonet SS.(2008).** A review on the use of non timber forest products in beauty-care in Bangladesh. *J. For. Res.* 19(1): 72-78.
- Baranwal VK, Irchhaya R, Singh S, (2012).** *Anosomeles ovata* : An Overview. *Int. Res. J. Pharm.* 3(1) : 84-87.
- Chopra RN and Nayer SL.(1956).** Glossary of Indian Medicinal Plants. Vol.1. CSIR. New Delhi.
- Chopra RN, Chopra IC, Handa KL and Kapur LD.(1982).** Indigenous drugs of India. Academic Publishers. Calcutta & New Delhi.
- Dey S, Banerjee D, Chattopadhyay S and Karmakar KB.(2010).** Antimicrobial activities of some medicinal plants in West Bengal. *Int. J. Pharm. Biosci.* 1(3): 1-10.
- Gaur RD, Sharma J and Painuli RM.(2010).** Plants used in traditional health care of livestock in Gujjar community of Sub-Himalayan trait, in Uttaranchal, India. *Ind. J. Nat. Prod. Resour.* 1(2): 243-249.
- Gupta A, Nagariya AK, Mishra AK, Bansal P, Kumar S, Gupta V and Singh AK.(2010).** Ethno-potential of Medicinal herb in skin diseases : An overview. *J. Pharm. Res.* 3(3): 435-441.
- Jain SK.(1991).** Dictionary of Indian Folk Medicine & Ethnobotany. Deep Publications. New Delhi.
- Jain SK.(1995).** Medicinal Plants. National Book Trust. India.
- Jaiswal S, Singh SV, Singh B and Singh HN.(2004).** Plants used for tissue healing in animals. *Nat. Prod. Rad.* 3(4): 284-290.
- Lather A, Chaudhury AK, Gupta V, Bansal P, Bansal R. (2012).** Phytochemistry and pharmacological activities of *Capparis zeylanica* : An overview. *Int. I. Res. Ayur. Pharm.* 1(2) : 383-389.
- Mishra TK, Banerjee SK and Pal DC.(2004).** An Omnibus of Non-Timber Forest Products of India. International Book Distributors Publishers & Printers. Dehra Dun. India.

**Mollick MAH, Hossain SM, Paul AK, Rahman MTU, Jahan R and Rahmatullah MA.(2010).** Comparative analysis of medicinal plants used in three districts of Bangladesh and Inquiry as to mode of selection of medicinal plants. *Ethnobot. Res. Appl.* 8: 195-218.

**Nawaz AHMM, Hosain M, Karim M, Khan M, Jahan, R. and Rahmatullah M. (2009).** An Ethnobotanical survey of Jessore District in Khulna Division, Bangladesh. *Am- Eurasian J. Sust. Agric.* 3(2): 238-243.

**Pal DC and Jain SK.(1998).** Tribal Medicine. Naya Prokash. Kolkata. p.49-242.

**Parrotta JA.(2001).** Healing Plants of Peninsular India. USDA Forest Service. International Institute of Tropical Forestry. CABI Publishing.

**Qureshi R, Bhatti, GR and Memon RA.(2010).** Ethnomedicinal uses of herbs from northern part of Nara desert, Pakistan. *Pakistan J. Bot.* 42(2): 839-851.

**Raina R, Shahid P, Verma PK and Pankaj NK.(2008).** Medicinal plants and their role in wound healing. *Vetscan.* 3(1): 1-7.

**Sen U and Sen D.(2005).** Ayurveda Sar Samgraha (Bengali Edn.). Swami Santadas Institute of Culture. Kolkata. (New Edn.).

**Sharma SK.(1998).** Medicinal Plants used in Ayurveda. National Academy of Ayurveda, Dept. of AYUSH, Ministry of Health & F.W. Govt of India.

**Sinha RK and Sinha S.(2001).** Ethnobiology. Suranhi Publications. Jaipur. India.

**Sudarsanam G, Reddy MB and Nagarju N.(1995).** Veterinary crude drugs in Rayalaseema. Andhra Pradesh. India. *Int. J. Pharm.* 33: 52-60.

**Uddin SJ, Grice D and Tiralongo E.(2011).** Cytotoxic effect of Bangladeshi medicinal plants extracts. *Evid. Bas. Compl. Alt. Med.* 2011: 1-7.

#### **Websites :**

<http://www.globin.com>

<http://www.raintree.com>

<http://www.ayurveda.com/herbs/coccinia indica.htm>.